

# AUDIT REPORT

Hostname: Dist\_SW2  
Config file name: dist\_sw2.txt  
Config hash: fd5924b00e844e9ad1c6bc6d08e4eed6eac1da7  
Vendor: cisco  
OS: ios  
Facility layer: collapsed\_distribution\_access  
L3 protocols: ipv4  
Enabled functions: ospf ipv4,hsrp,acl created  
Date: 18/05/2020\_10:01

## SUCCESS STATISTICS

Weighted score coefficient: 96 out of 100  
Successful checks: 94.3%  
Unsuccessful checks: 5.7%

Total number of relevant started checks: 159

Successful checks: 150  
Unsuccessful 'Critical': 3  
Unsuccessful 'High': 2  
Unsuccessful 'Medium': 3  
Unsuccessful 'Low': 1  
Unsuccessful 'Notice': 0

## Authentication, Authorization, Accounting

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	AAA new model/ Enabled AAA	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> aaa new-model					
2	AAA server set	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> radius server RADIUS_SERVER address ipv4 192.168.60.11 auth-port 1645 acct-port 1646 key RadKey1					
3	AAA server group	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> aaa group server radius RADIUS_SERVER server name RADIUS_SERVER					
4	AAA authentication login	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> aaa authentication login default group RADIUS_SERVER local enable					
5	AAA authentication login fallback	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> aaa authentication login default group RADIUS_SERVER local enable					

6	AAA authentication login only local disabled	High	False	False	Successful
7	AAA authentication login none disabled	Critical	False	False	Successful
8	AAA authentication "enable"	Medium	False	False	Successful
<b>Right configuration setting found in:</b> aaa authentication enable default group RADIUS_SERVER enable					
9	AAA authentication "enable" fallback	Medium	False	False	Successful
<b>Right configuration setting found in:</b> aaa authentication enable default group RADIUS_SERVER enable					
10	AAA authentication "enable" only local disabled	Medium	False	False	Successful
11	AAA authentication "enable" none disabled	High	False	False	Successful
12	AAA authorization "exec"	High	False	False	Successful
<b>Right configuration setting found in:</b> aaa authorization exec default group RADIUS_SERVER local if-authenticated					
13	AAA authorization "exec" fallback	High	False	False	Successful
<b>Right configuration setting found in:</b> aaa authorization exec default group RADIUS_SERVER local if-authenticated					
14	AAA authorization "exec" only local disabled	High	False	False	Successful
15	AAA authorization "exec" none disabled	Critical	False	False	Successful
16	AAA accounting "connection"	High	False	False	Successful
<b>Right configuration setting found in:</b> aaa accounting connection default start-stop group RADIUS_SERVER					
17	AAA accounting "connection" none disabled	High	False	False	Successful
18	AAA accounting "exec"	High	False	False	Successful
<b>Right configuration setting found in:</b> aaa accounting exec default start-stop group RADIUS_SERVER					
19	AAA accounting "exec" none disabled	High	False	False	Successful
20	AAA source interface	Medium	False	False	Successful
<b>Right configuration setting found in:</b> ip radius source-interface Loopback0					
21	AAA authentication max attempts less or equal to 5	High	False	False	Successful

## Access to device

No.	Name	Severity	Skipped	Cannot determine Status search/fix	
1	Exec timeout <=5 minutes	Medium	False	False	Successful
<b>Right configuration setting found in:</b> line con 0 exec-timeout 5 0 line vty 0 4 exec-timeout 5 0					
2	AUX connection input disabled	High	False	False	Successful
3	AUX no execution set	High	False	False	Successful
<b>Right configuration setting found in:</b> line aux 0 no exec					
4	Remote output connections disabled	Medium	False	False	Successful

**Right configuration setting found in:**

line con 0  
transport output none  
line aux 0  
transport output none  
line vty 0 4  
transport output none

5	Local user database with encrypted password	Critical	False	False	Successful ✓
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**Right configuration setting found in:**

username admin secret 5 \$1\$6BjD\$5cLWlrlUJZMGqw1y1JydU.

6	Local user database with plaintext password disabled	Critical	False	False	Successful ✓
7	Enable password encrypted	Critical	False	False	Successful ✓

**Right configuration setting found in:**

enable secret 5 \$1\$qn/1\$G9grcHRrg6n9mnqv.GyW.1

8	Enable password plaintext disabled	Critical	False	False	Successful ✓
9	Local login to virtual terminal disabled	Critical	False	False	Successful ✓
10	Restrict login to device - IPv4 ACL	Critical	False	False	Successful ✓

**Right configuration setting found in:**

line vty 0 4  
access-class IPV4\_VTY\_ACL in

11	ACL specified for VTY access is created	Critical	False	False	Error ✗
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**Comment:**

Cannot be fixed automatically!

**Fix notice:**

Cannot be fixed automatically! If search is not successful create ACL, which permits only needed end stations for managing devices with these commands:

ip access-list standard <acl name>  
remark Permitting managemnt device  
permit <ip address> <wildcard mask>

12	Log login to device on failure	High	False	False	Successful ✓
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**Right configuration setting found in:**

login on-failure log

13	Log login to device on success	Medium	False	False	Successful ✓
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**Right configuration setting found in:**

login on-success log

14	Login quiet mode	Medium	False	False	Successful ✓
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**Right configuration setting found in:**

login quiet-mode access-class IPV4\_VTY\_ACL

15	ACL exists for specified login quiet mode	Medium	False	False	Error ✗
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**Comment:**

Cannot be fixed automatically!

**Fix notice:**

Cannot be fixed automatically! If search is not successful create ACL, which permits only needed end stations for managing devices with these commands:

ip access-list standard <acl name>  
remark Permitting managemnt device  
permit <ip address> <wildcard mask>

16	One user change config at time	High	False	False	Successful ✓
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**Right configuration setting found in:**

configuration mode exclusive

17	Legal banner MOTD	Low	False	False	Successful ✓
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**Right configuration setting found in:**

banner motd ^C Unauthorized access will be prosecuted!! ^C

18	Legal banner exec	Low	False	False	Successful ✓
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**Right configuration setting found in:**

banner exec ^C

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19	Legal banner login	Low	False	False	Successful ✓
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**Right configuration setting found in:**

banner login ^C

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20	Session timeout	Medium	False	False	Successful ✓
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**Right configuration setting found in:**

line con 0

session-timeout 30

line aux 0

session-timeout 30

line vty 0 4

session-timeout 30

21	AUX exec timeout one second	High	False	False	Successful ✓
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**Right configuration setting found in:**

line aux 0

exec-timeout 0 1

22	Restrict login to device - IPv6 ACL	Critical	True	False	Not relevant ✓
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**Comment:**

Skipped, required function ipv6 not configured on device. Everything is OK.

23	ACL IPv6 specified for VTY access is created	Critical	True	False	Not relevant ✓
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**Comment:**

Skipped, required function ipv6 not configured on device. Everything is OK.

24	Login DOS block for	High	False	False	Successful ✓
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**Right configuration setting found in:**

login block-for 120 attempts 3 within 30

## SSH

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	SSH enable on management connection	Critical	False	False	Successful ✓
<b>Right configuration setting found in:</b> line vty 0 4 transport input ssh					
2	SSH version 2	Critical	False	False	Successful ✓
<b>Right configuration setting found in:</b> ip ssh version 2					
3	SSH timeout	Medium	False	False	Successful ✓

**Right configuration setting found in:**

ip ssh time-out 30

4	SSH max 3 retries	Medium	False	False	Successful ✓
5	SSH source interface	High	False	False	Successful ✓

**Right configuration setting found in:**

ip ssh source-interface Loopback0

6	SSH not default port	High	False	False	Successful ✓
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**Right configuration setting found in:**

ip ssh port 2223 rotary 1

7	SSH not default port applied	High	False	False	Successful ✓
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**Right configuration setting found in:**

line vty 0 4

rotary 1

## Device identification

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	Hostname set	Low	False	False	Successful ✓
<b>Comment:</b> Cannot be fixed automatically!					
<b>Right configuration setting found in:</b> hostname Dist_SW2					
2	Domain name set	Low	False	False	Successful ✓
<b>Right configuration setting found in:</b> ip domain-name thesis-test.cz					
3	All interfaces have description	Low	False	False	Error ✗
<b>Comment:</b> Cannot be fixed automatically!					
<b>Right configuration setting found in:</b> interface GigabitEthernet0/0 description uplink					
<b>Found port(s) with error:</b> Loopback0 GigabitEthernet0/1 GigabitEthernet0/2 GigabitEthernet0/3 GigabitEthernet1/0 GigabitEthernet1/1 GigabitEthernet1/2 GigabitEthernet1/3 GigabitEthernet2/0 GigabitEthernet2/1 GigabitEthernet2/2 GigabitEthernet2/3 GigabitEthernet3/0 GigabitEthernet3/1 GigabitEthernet3/2 GigabitEthernet3/3 Vlan20 Vlan30					
<b>Fix notice:</b> Set interface description with command: interface <interface name> description <description of interface>					
<b>Fix ignore comment:</b> Fixing commands suppressed due to manual need of manual change and name determination.					

## SNMP

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	SNMP v2 write disabled	Critical	False	False	Successful ✓
2	SNMP v2 read without ACL disabled	Critical	False	False	Successful ✓
3	SNMP v2 read with ACL disabled	Critical	False	False	Successful ✓
4	SNMP v1 trap host disabled	Critical	False	False	Successful ✓
5	SNMP v2 trap host disabled	Critical	False	False	Successful ✓
6	SNMP v3 read [authnopriv noauth authpriv without ACL] or write disabled	Critical	False	False	Error ✗
<b>Error configuration setting found in:</b> snmp-server group SNMPv3USER v3 priv					
7	SNMP v3 read authpriv with ACL enabled	Critical	False	False	Successful ✓
<b>Right configuration setting found in:</b> snmp-server group SNMP_V3_GRP v3 priv read READ_VIEW access SNMP_V3					
8	SNMP v3 read authpriv with IPv6 ACL enabled	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
9	SNMP user v1 v2c or v3 [noauth authnopriv no sha no aes without ACL] disabled	Critical	False	False	Successful ✓
10	SNMP trap source interface	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> snmp-server trap-source Loopback0					
11	SNMP server location	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> snmp-server location GNS3LAB					
12	SNMP v3 traps priv	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> snmp-server host 192.168.60.11 version 3 priv SNMPv3USER					
13	SNMP traps v3 read [authnopriv noauth] or v1 v2 disabled	Critical	False	False	Successful ✓
14	SNMP traps enabled	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> snmp-server enable traps snmp authentication linkdown linkup coldstart warmstart					
15	ACL is created for SNMPv3	Critical	False	False	Successful ✓
<b>Right configuration setting found in:</b> ip access-list standard SNMP_V3					
16	ACL IPv6 is created for SNMPv3	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
17	SNMP interface index persist enabled globally	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> snmp ifmib ifindex persist					
18	SNMP interface index persist enabled per interface	High	False	False	Matched by equivalent ✓
<b>Comment:</b> Module was marked as matched by equivalent by module 05_20_snmp_ifindex_persist_globally.yaml					

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	Syslog server enabled	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> logging host 192.168.60.11					
2	Syslog server IPv6 enabled	High	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
3	Syslog source interface	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> logging source-interface Loopback0					
4	Syslog format	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> service timestamps log datetime msec					
5	Syslog critical alerts to console	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> logging console critical					
6	Syslog send informational traps	High	False	False	Successful ✓
7	Syslog buffer set with severity	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> logging buffered 40960 informational					
8	Syslog local backup	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> logging persistent url flash: /					
9	Syslog sequence numbers added	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> service sequence-numbers					

## NTP

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	NTP server set	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> ntp server 192.168.60.11					
2	NTP source interface	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> ntp source Loopback0					
3	NTP authentication key	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> ntp authentication-key 1 md5 030A4F1B360E325F590D485744 7					
4	NTP trusted key	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> ntp trusted-key 1					
5	NTP authenticate	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> ntp authenticate					

## High load

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No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	SNMP traps for CPU load	Medium	False	False	Error ❌
<b>Generated fix:</b> snmp-server enable traps cpu threshold					
2	Threshold for CPU load	Medium	False	False	Successful ✅
<b>Right configuration setting found in:</b> process cpu threshold type total rising 70 interval 5					
3	Statistics entry for CPU load	Low	False	False	Successful ✅
<b>Right configuration setting found in:</b> process cpu statistics limit entry-percentage 70					
4	Reserve memory for critical notification	Medium	False	False	Successful ✅
<b>Right configuration setting found in:</b> memory reserve critical 1000					
5	Minimum CPU memory notification	Medium	False	False	Successful ✅
<b>Right configuration setting found in:</b> memory free low-watermark processor 2000					
6	Minimum IO memory notification	Medium	False	False	Successful ✅
<b>Right configuration setting found in:</b> memory free low-watermark IO 2000					

## Spanning tree

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	Portfast globally enabled	High	False	False	Successful ✅
<b>Right configuration setting found in:</b> spanning-tree portfast edge default					
2	Portfast enabled on access interface	High	False	False	Matched by equivalent ✅
<b>Comment:</b> Module was marked as matched by equivalent by module 09_01_stp_portfast_default.yaml					
3	BPDU Guard globally enabled	Critical	False	False	Successful ✅
<b>Right configuration setting found in:</b> spanning-tree portfast edge bpduguard default					
4	BPDU Guard enabled on access interface	High	False	False	Matched by equivalent ✅
<b>Comment:</b> Module was marked as matched by equivalent by module 09_03_stp_bpdu_guard.yaml					
5	BPDU Filter globally disabled	Critical	False	False	Successful ✅
6	BPDU Filter disabled on access interface	High	False	False	Not relevant ✅
<b>Comment:</b> Module 09_06_stp_bpdu_filter_interface.yaml configured to run after 09_05_stp_bpdu_filter.yaml with status error but that module has not run yet with specified cmd_match_status, 09_06_stp_bpdu_filter_interface.yaml will not run					
7	Loop Guard globally enabled	Critical	False	False	Successful ✅
<b>Right configuration setting found in:</b> spanning-tree loopguard default					
8	Loop Guard enabled on access interface	High	False	False	Matched by equivalent ✅
<b>Comment:</b> Module was marked as matched by equivalent by module 09_07_stp_loop_guard.yaml					



## VLAN

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	Default Vlan not used	Critical	False	False	Error ❌
<b>Comment:</b> Cannot be fixed automatically! Cannot automatically determine VLAN assignment to port.					
<b>Right configuration setting found in:</b> interface GigabitEthernet2/0 switchport access vlan 20					
<b>Found port(s) with error:</b> GigabitEthernet0/2 GigabitEthernet0/3 GigabitEthernet1/1 GigabitEthernet1/2 GigabitEthernet1/3 GigabitEthernet2/1 GigabitEthernet2/2 GigabitEthernet2/3 GigabitEthernet3/0 GigabitEthernet3/1 GigabitEthernet3/2 GigabitEthernet3/3					
<b>Fix notice:</b> Eliminate ports with default Vlan by command with Vlan ID different than 1 interface <interface name> switchport mode access switchport access vlan <vlan id>					
2	Management VLAN + SVI set and different than 1	Medium	False	False	Successful ✅
<b>Comment:</b> Cannot be fixed automatically! Cannot automatically set different IP among SVI(s) a lot of prerequisites must be met as existing VLAN and port assigned to VLAN.					
<b>Right configuration setting found in:</b> interface Vlan20 ip address 192.168.20.2 255.255.255.0 no ip redirects no ip unreachable no ip proxy-arp standby 20 ip 192.168.20.1 snmp ifindex persist					
3	Management VLAN gateway	Medium	False	False	Error ❌
<b>Comment:</b> Cannot be fixed automatically! Cannot automatically set default gateway among different switches.					
<b>Fix notice:</b> Default gateway can be set with command: ip default-gateway <ip address>					
4	Native vlan different than 1	Critical	False	False	Successful ✅
<b>Right configuration setting found in:</b> interface GigabitEthernet0/1 switchport trunk native vlan 100 interface GigabitEthernet1/0 switchport trunk native vlan 100					
5	Specified allowed VLAN on trunk	Critical	False	False	Successful ✅
<b>Right configuration setting found in:</b> interface GigabitEthernet0/1 switchport trunk allowed vlan 20,30 interface GigabitEthernet1/0 switchport trunk allowed vlan 20,30					
6	Switchport mode dynamic disabled	Critical	False	False	Successful ✅
7	Switchport implicit dynamic disabled	Critical	False	False	Successful ✅

**Right configuration setting found in:**

```
interface GigabitEthernet0/2
switchport mode access
interface GigabitEthernet0/3
switchport mode access
interface GigabitEthernet1/1
switchport mode access
interface GigabitEthernet1/2
switchport mode access
interface GigabitEthernet1/3
switchport mode access
interface GigabitEthernet2/0
switchport mode access
interface GigabitEthernet2/1
switchport mode access
interface GigabitEthernet2/2
switchport mode access
interface GigabitEthernet2/3
switchport mode access
interface GigabitEthernet3/0
switchport mode access
interface GigabitEthernet3/1
switchport mode access
interface GigabitEthernet3/2
switchport mode access
interface GigabitEthernet3/3
switchport mode access
```

8	DTP disabled	Critical	False	False	Successful ✓
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**Right configuration setting found in:**

```
interface GigabitEthernet0/1
switchport nonegotiate
interface GigabitEthernet0/2
switchport nonegotiate
interface GigabitEthernet0/3
switchport nonegotiate
interface GigabitEthernet1/0
switchport nonegotiate
interface GigabitEthernet1/1
switchport nonegotiate
interface GigabitEthernet1/2
switchport nonegotiate
interface GigabitEthernet1/3
switchport nonegotiate
interface GigabitEthernet2/0
switchport nonegotiate
interface GigabitEthernet2/1
switchport nonegotiate
interface GigabitEthernet2/2
switchport nonegotiate
interface GigabitEthernet2/3
switchport nonegotiate
interface GigabitEthernet3/0
switchport nonegotiate
interface GigabitEthernet3/1
switchport nonegotiate
interface GigabitEthernet3/2
switchport nonegotiate
interface GigabitEthernet3/3
switchport nonegotiate
```

9	VTP disabled	Critical	False	False	Successful ✓
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## Network Mapping

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	CDP globally disabled	Critical	False	False	Successful ✓
<b>Right configuration setting found in:</b> no cdp run					
2	CDP disabled on interface(s)	Critical	False	False	Matched by equivalent ✓
<b>Comment:</b> Module was marked as matched by equivalent by module 11_01_cdp_run_disabled.yaml					

3	LLDP globally disabled	Critical	False	False	Successful ✓
4	LLDP receive disabled on interface(s)	Critical	False	False	Not relevant ✓
<b>Comment:</b> Module 11_04_lldp_receive.yaml configured to run after 11_03_lldp_run_disabled.yaml with status error but that module has not run yet with specified cmd_match_status, 11_04_lldp_receive.yaml will not run					
5	LLDP transmit disabled on interface(s)	Critical	False	False	Not relevant ✓
<b>Comment:</b> Module 11_05_lldp_transmit.yaml configured to run after 11_03_lldp_run_disabled.yaml with status error but that module has not run yet with specified cmd_match_status, 11_05_lldp_transmit.yaml will not run					
6	Proxy ARP disabled on interface(s)	Critical	False	False	Successful ✓
<b>Right configuration setting found in:</b> interface GigabitEthernet0/0 no ip proxy-arp interface Vlan20 no ip proxy-arp interface Vlan30 no ip proxy-arp					
7	ICMP Unreachable disabled on interface(s)	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> interface GigabitEthernet0/0 no ip unreachableables interface Vlan20 no ip unreachableables interface Vlan30 no ip unreachableables					
8	ICMPv6 Unreachable disabled on interface(s)	High	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
9	ICMP Mask Reply disabled on interface(s)	High	False	False	Successful ✓
10	Directed broadcast disabled on interface(s)	Critical	False	False	Successful ✓
11	ICMP Redirects disabled on interface(s)	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> interface GigabitEthernet0/0 no ip redirects interface Vlan20 no ip redirects interface Vlan30 no ip redirects					
12	ICMP 224.0.0.1 ping disabled in ACL	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> ip access-list extended DENY_NETWORK_MAP remark deny ping all nodes deny icmp any host 224.0.0.1 echo log-input remark deny host query deny igmp any any 1 log-input permit ip any any remark deny ping all nodes remark deny host query					
13	IGMP Host Query disabled in ACL	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> ip access-list extended DENY_NETWORK_MAP remark deny ping all nodes deny icmp any host 224.0.0.1 echo log-input remark deny host query deny igmp any any 1 log-input permit ip any any remark deny ping all nodes remark deny host query					

14	ICMPv6 ff02::1 ping disabled in ACL	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
15	MLD Host Query disabled in ACL	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
16	ACL against IPv4 network monitoring applied on interface(s)	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> interface GigabitEthernet0/2 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet0/3 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet1/1 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet1/2 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet1/3 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet2/0 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet2/1 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet2/2 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet2/3 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet3/0 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet3/1 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet3/2 ip access-group DENY_NETWORK_MAP in interface GigabitEthernet3/3 ip access-group DENY_NETWORK_MAP in					
17	ACL against IPv6 network monitoring applied on interface(s)	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					

## Routing

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	OSPF IPv4 Router ID	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> router ospf 1 router-id 1.1.1.1					
2	OSPF IPv6 Router ID	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ospf ipv6 not configured on device. Everything is OK.					
3	OSPFv3 Address Family General Router ID	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ospfv3 not configured on device. Everything is OK.					
4	OSPFv3 Address Family IPv4 Router ID	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ospfv3 not configured on device. Everything is OK.					

5	OSPFv3 Address Family IPv6 Router ID	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
6	EIGRP IPv4 Router ID	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function eigrp ipv4 not configured on device. Everything is OK.					
7	EIGRP IPv6 Router ID	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function eigrp ipv6 not configured on device. Everything is OK.					
8	EIGRP Named IPv4 Router ID	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function eigrp named not configured on device. Everything is OK.					
9	EIGRP Named IPv6 Router ID	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
10	BGP Router ID	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function bgp not configured on device. Everything is OK.					
11	OSPF IPv4 Log adjacency changes	Medium	False	False	Successful ✓
12	OSPF IPv6 Log adjacency changes	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ospf ipv6 not configured on device. Everything is OK.					
13	OSPFv3 Address Family IPv6 Log adjacency changes	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
14	OSPFv3 Address Family IPv4 Log adjacency changes	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ospfv3 not configured on device. Everything is OK.					
15	OSPFv3 Address Family IPv6 Log adjacency changes	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
16	EIGRP IPv4 Log neighbor changes	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function eigrp ipv4 not configured on device. Everything is OK.					
17	EIGRP IPv6 Log neighbor changes	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function eigrp ipv6 not configured on device. Everything is OK.					
18	EIGRP Named IPv4 Log neighbor changes	Medium	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function eigrp named not configured on device. Everything is OK.					
19	EIGRP Named IPv6 Log neighbor changes	Medium	True	False	Not relevant ✓

**Comment:**

Skipped, required function ipv6 not configured on device. Everything is OK.

20	BGP Log neighbor changes	Medium	True	False	Not relevant ✓
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**Comment:**

Skipped, required function bgp not configured on device. Everything is OK.

21	RIP auto summary disabled	High	True	False	Not relevant ✓
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**Comment:**

Skipped, required function rip not configured on device. Everything is OK.

22	EIGRP IPv4 Auto summary disabled	High	True	False	Not relevant ✓
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**Comment:**

Skipped, required function eigrp ipv4 not configured on device. Everything is OK.

23	EIGRP IPv6 Auto summary disabled	High	True	False	Not relevant ✓
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**Comment:**

Skipped, required function eigrp ipv6 not configured on device. Everything is OK.

24	EIGRP Named IPv4 Auto summary disabled	High	True	False	Not relevant ✓
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**Comment:**

Skipped, required function eigrp named not configured on device. Everything is OK.

25	EIGRP Named IPv6 Auto summary disabled	High	True	False	Not relevant ✓
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**Comment:**

Skipped, required function ipv6 not configured on device. Everything is OK.

26	BGP Auto summary disabled	High	True	False	Not relevant ✓
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**Comment:**

Skipped, required function bgp not configured on device. Everything is OK.

27	BGP Multihop disabled or TTL security used	High	True	False	Not relevant ✓
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**Comment:**









Skipped, required function bgp not configured on device. Everything is OK.

28	IP Source routing (IP Options) disabled	Critical	False	False	Successful ✓
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## Filtering

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	IP Options disabled	Critical	False	False	Successful ✓
<b>Right configuration setting found in:</b> ip options drop					
2	ACL filter IPv6 unknown extended header	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
3	ACL filter IPv6 unknown extended header applied on ACCESS interface	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					

## First Hop Security

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	Port security enabled	Critical	False	False	Successful 
<b>Right configuration setting found in:</b> interface GigabitEthernet0/2 switchport port-security interface GigabitEthernet0/3 switchport port-security interface GigabitEthernet1/1 switchport port-security interface GigabitEthernet1/2 switchport port-security interface GigabitEthernet1/3 switchport port-security interface GigabitEthernet2/0 switchport port-security interface GigabitEthernet2/1 switchport port-security interface GigabitEthernet2/2 switchport port-security interface GigabitEthernet2/3 switchport port-security interface GigabitEthernet3/0 switchport port-security interface GigabitEthernet3/1 switchport port-security interface GigabitEthernet3/2 switchport port-security interface GigabitEthernet3/3 switchport port-security					
2	Port security maximum 1 allowed MAC on port	Critical	False	False	Successful 
3	Port security violation shutdown	Critical	False	False	Successful 
4	802.1x globally enabled	High	False	False	Successful 
<b>Right configuration setting found in:</b> dot1x system-auth-control					
5	AAA authentication 802.1x	High	False	False	Successful 
<b>Right configuration setting found in:</b> aaa authentication dot1x default group RADIUS_SERVER					
6	802.1x enabled on interfaces	High	False	False	Successful 
<b>Right configuration setting found in:</b> interface GigabitEthernet0/2 access-session port-control auto interface GigabitEthernet0/3 access-session port-control auto interface GigabitEthernet1/1 access-session port-control auto interface GigabitEthernet1/2 access-session port-control auto interface GigabitEthernet1/3 access-session port-control auto interface GigabitEthernet2/0 access-session port-control auto interface GigabitEthernet2/1 access-session port-control auto interface GigabitEthernet2/2 access-session port-control auto interface GigabitEthernet2/3 access-session port-control auto interface GigabitEthernet3/0 access-session port-control auto interface GigabitEthernet3/1 access-session port-control auto interface GigabitEthernet3/2 access-session port-control auto interface GigabitEthernet3/3 access-session port-control auto					
7	802.1x enabled on interfaces	High	False	False	Successful 
8	802.1x port set authenticator	High	False	False	Successful 

**Right configuration setting found in:**

```
interface GigabitEthernet0/2
dot1x pae authenticator
interface GigabitEthernet0/3
dot1x pae authenticator
interface GigabitEthernet1/1
dot1x pae authenticator
interface GigabitEthernet1/2
dot1x pae authenticator
interface GigabitEthernet1/3
dot1x pae authenticator
interface GigabitEthernet2/0
dot1x pae authenticator
interface GigabitEthernet2/1
dot1x pae authenticator
interface GigabitEthernet2/2
dot1x pae authenticator
interface GigabitEthernet2/3
dot1x pae authenticator
interface GigabitEthernet3/0
dot1x pae authenticator
interface GigabitEthernet3/1
dot1x pae authenticator
interface GigabitEthernet3/2
dot1x pae authenticator
interface GigabitEthernet3/3
dot1x pae authenticator
```

9	DHCP Snooping globally enabled	Critical	False	False	Successful ✓
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**Right configuration setting found in:**

```
ip dhcp snooping
```

10	DHCP Snooping enabled for VLAN(s)	Critical	False	False	Successful ✓
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**Right configuration setting found in:**

```
ip dhcp snooping vlan 10,20,30,40,50,60
```

11	DHCP Snooping trust interface(s) set	Critical	False	False	Successful ✓
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**Right configuration setting found in:**

```
interface GigabitEthernet0/1
ip dhcp snooping trust
interface GigabitEthernet1/0
ip dhcp snooping trust
```

12	DHCP Snooping rate limit fo ACCESS interface(s) set	High	False	False	Successful ✓
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**Right configuration setting found in:**

```
interface GigabitEthernet0/2
ip dhcp snooping limit rate 100
interface GigabitEthernet0/3
ip dhcp snooping limit rate 100
interface GigabitEthernet1/1
ip dhcp snooping limit rate 100
interface GigabitEthernet1/2
ip dhcp snooping limit rate 100
interface GigabitEthernet1/3
ip dhcp snooping limit rate 100
interface GigabitEthernet2/0
ip dhcp snooping limit rate 100
interface GigabitEthernet2/1
ip dhcp snooping limit rate 100
interface GigabitEthernet2/2
ip dhcp snooping limit rate 100
interface GigabitEthernet2/3
ip dhcp snooping limit rate 100
interface GigabitEthernet3/0
ip dhcp snooping limit rate 100
interface GigabitEthernet3/1
ip dhcp snooping limit rate 100
interface GigabitEthernet3/2
ip dhcp snooping limit rate 100
interface GigabitEthernet3/3
ip dhcp snooping limit rate 100
```

13	IPv6 Unicast Routing enabled	Critical	True	False	Not relevant ✓
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**Comment:**

Skipped, required function ipv6 not configured on device. Everything is OK.



14	IPv6 RA Guard host policy defined	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
15	IPv6 RA Guard on ACCESS interface(s)	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
16	DHCPv6 Server policy	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
17	DHCPv6 Client policy	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
18	DHCPv6 Guard server interface(s) set	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
19	DHCPv6 Guard client interface(s) set	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
20	Dynamic ARP Inspection enabled for VLAN(s)	Critical	False	False	Successful ✓
<b>Right configuration setting found in:</b> ip arp inspection vlan 10,20,30,40,50,60					
21	Dynamic ARP Inspection validate by SRC,DST MAC and IP	Critical	False	False	Successful ✓
<b>Right configuration setting found in:</b> ip arp inspection validate src-mac dst-mac ip					
22	Dynamic ARP trusted interface(s) set	Critical	False	False	Successful ✓
<b>Right configuration setting found in:</b> interface GigabitEthernet0/1 ip arp inspection trust interface GigabitEthernet1/0 ip arp inspection trust					
23	IPv6 ND inspection policy	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
24	IPv6 ND inspection on interface(s) set	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
25	IPv6 Snooping policy	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
26	IPv6 Snooping on interface(s) set	Critical	True	False	Not relevant ✓
<b>Comment:</b> Skipped, required function ipv6 not configured on device. Everything is OK.					
27	IP Source Guard on interface(s) set	Critical	False	False	Successful ✓

**Right configuration setting found in:**

```
interface GigabitEthernet0/2
ip verify source port-security
interface GigabitEthernet0/3
ip verify source port-security
interface GigabitEthernet1/1
ip verify source port-security
interface GigabitEthernet1/2
ip verify source port-security
interface GigabitEthernet1/3
ip verify source port-security
interface GigabitEthernet2/0
ip verify source port-security
interface GigabitEthernet2/1
ip verify source port-security
interface GigabitEthernet2/2
ip verify source port-security
interface GigabitEthernet2/3
ip verify source port-security
interface GigabitEthernet3/0
ip verify source port-security
interface GigabitEthernet3/1
ip verify source port-security
interface GigabitEthernet3/2
ip verify source port-security
interface GigabitEthernet3/3
ip verify source port-security
```

28	IPv6 Source Guard policy	Critical	True	False	Not relevant ✓
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**Comment:**

Skipped, required function ipv6 not configured on device. Everything is OK.

29	IPv6 Source Guard on interface(s) set	Critical	True	False	Not relevant ✓
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**Comment:**

Skipped, required function ipv6 not configured on device. Everything is OK.

30	IPv6 Destination Guard policy	Critical	True	False	Not relevant ✓
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**Comment:**

Skipped, required function ipv6 not configured on device. Everything is OK.

31	IPv6 Destination Guard on interface(s) set	Critical	True	False	Not relevant ✓
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**Comment:**

Skipped, required function ipv6 not configured on device. Everything is OK.

## Other

No.	Name	Severity	Skipped	Cannot determine search/fix	Status
1	Servis PAD disabled (Packet assembler disassembler)	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> no service pad					
2	BOOTP server disabled	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> no ip bootp server					
3	Finger protocol disabled	High	False	False	Successful ✓
4	HTTP server disabled	High	False	False	Error ✗
<b>Error configuration setting found in:</b> ip http server					

5	HTTPS server disabled	High	False	False	Successful ✓
6	TCP small server disabled	High	False	False	Successful ✓
7	UDP small server disabled	High	False	False	Successful ✓
8	IP domain lookup disabled	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> no ip domain-lookup					
9	Gratuitous ARPs generation disabled	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> no ip gratuitous-arps					
10	Gratuitous ARPs reject enabled	High	False	False	Successful ✓
<b>Right configuration setting found in:</b> ip arp gratuitous none					
11	Netflow is disabled	Notice	False	False	Successful ✓
<b>Fix ignore comment:</b> By default fix is ignored due to disablement of traffic monitoring. Consider whether port mirroring is necessary for monitoring					
12	Netflow version 9 used	Medium	False	False	Not relevant ✓
<b>Comment:</b> Module 15_14_netflow_version_9.yaml configured to run after 15_13_netflow.yaml with status error but that module has not run yet with specified cmd_match_status, 15_14_netflow_version_9.yaml will not run					
13	Netflow traffic analyze disabled on interface(s)	Notice	False	False	Not relevant ✓
<b>Comment:</b> Module 15_15_netflow_interface.yaml configured to run after 15_13_netflow.yaml with status error but that module has not run yet with specified cmd_match_status, 15_15_netflow_interface.yaml will not run					
<b>Fix ignore comment:</b> By default fix is ignored due to disablement of traffic monitoring. Consider whether port mirroring is necessary for monitoring					
14	Port mirroring disabled on interface(s)	Notice	False	False	Successful ✓
<b>Fix ignore comment:</b> By default fix is ignored due to disablement of traffic monitoring. Consider whether port mirroring is necessary for monitoring					
15	Set always "UP" Loopback interface with IP address	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> interface Loopback0 ip address 1.1.1.1 255.255.255.0 no ip redirects no ip unreachableables no ip proxy-arp no ipv6 unreachableables snmp ifindex persist					
16	Notification on memory IO leak/overflow	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> exception memory ignore overflow io					
17	Notification on memory CPU leak/overflow	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> exception memory ignore overflow processor					
18	Network boot disabled	Medium	False	False	Successful ✓
19	Network config load disabled	Medium	False	False	Successful ✓
20	SCP server enabled	Medium	False	False	Successful ✓
<b>Right configuration setting found in:</b> ip scp server enable					
21	SCP alias copy instead of TFTP	High	False	False	Successful ✓

22	Protection of configuration deletion	High	False	False	Error ❌
<b>Generated fix:</b> secure boot config secure boot-config					
<b>Fix notice:</b> Just one of fixing command is applicable to device. There are more because of different syntax among IOS versions.					
23	Archive and log config changes	Medium	False	False	Successful ✅
<b>Right configuration setting found in:</b> archive log config logging enable notify syslog contenttype plaintext hidekeys path flash: maximum 5 time-period 60 memory reserve critical 1000 memory free low-watermark processor 2000 memory free low-watermark IO 2000					
24	Terminate hanged inbound TCP connection to device	Medium	False	False	Successful ✅
<b>Right configuration setting found in:</b> service tcp-keepalives-in					
25	Terminate hanged outbound TCP connection to device	Medium	False	False	Successful ✅
<b>Right configuration setting found in:</b> service tcp-keepalives-out					
26	Encrypt all saved passwords in configuration	Critical	False	False	Successful ✅
<b>Right configuration setting found in:</b> no service password-encryption					